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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,077	05/15/2006	Shintaro Kobayashi	P28961	1087

7055 7590 02/06/2009  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER
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IQBAL, SYED TAHA

ART UNIT	PAPER NUMBER
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4181

NOTIFICATION DATE	DELIVERY MODE
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02/06/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,077	<b>Applicant(s)</b> KOBAYASHI ET AL.	
	<b>Examiner</b> SYED IQBAL	<b>Art Unit</b> 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 8-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/09/2006, 04/23/2008</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Application***

Claims 1-16 are pending and the elected claims 1-7 are presented for examination. Claims 8-16 are withdrawn as being non-elected claims from further consideration.

### ***Election Acknowledged***

Applicant's election with traverse of the invention group I of claims 1-7 is acknowledged. Applicant's traverse the restriction requirement on the grounds that the inventions of group I and II do not lack unity since the subject matter that the Office has identified as being shared between the respective Groups, is neither anticipated by nor obvious in view of the prior art. The applicant therefore submits the related inventions as examinable together.

The examiner further clarifies that unity between Groups does not exist by evaluating what is encompassed by the scope of the common technical feature. The formula  $\text{Ca}_{10}(\text{PO}_4)_6((\text{OH})_{1-x}\text{A}_x)_2$  where A is a halogen and  $0 \leq x \leq 1$ , is inclusive of the endpoints. This means that the compounds defined by the formulas  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  and  $\text{Ca}_{10}(\text{PO}_4)_6(\text{A})_2$  are claimed within the scope of the common technical feature. The mentioned prior art reference (JP10118167) teaches both of these compounds (pg 21 Para [0030]) and that iron can be contained on this compound (pg 23 Para[0030]). Since the species is taught by the reference it anticipates the genus of the instant claim. The examiner cites the MPEP section 2131.02; "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The

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species in that case will anticipate the genus. In re Slayter, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); In re Gosteli, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

Since the technical feature shared by the Groups is anticipated by the reference the common technical feature is not a special technical feature the unity is lacking. To ensure accurate examination with quality, examiner concluded that restriction requirement is proper for the aforementioned reasons. Thus, restriction requirement is maintained as indicated in the previous office and made FINAL.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Atsumi JP10118167.**

In regards to claim 1 and 2, Atsumi teaches (Pg 21 Para [0030]) the compounds  $\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$  and  $\text{Ca}_{10}(\text{PO}_4)_6(\text{X})_2$ , where X is a halogen, which are species of the formula  $\text{Ca}_{10}(\text{PO}_4)_6((\text{OH})_{1-x}\text{A}_x)_2$  recited in instant claim 1, wherein the x may be 0 and 1. Atsumi also teaches trivalent iron from an iron nitrate source may be bonded to the phosphate group of the compounds discussed above (Pg 51 Para [0097]).

In regards to claim 3, the reference gives examples of the amounts of  $\text{Fe}^{+3}$  that are on the apatite. The weight percents of the metals are disclosed (Pg 41 table A). For

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instance, in example 1, 1 wt% and in example 11, 10 wt% of Fe was used per 135g of apatite (Pg 32 Para [0055]), which would fall within the range of 0.1 to 100 mg per gram of the apatite.

In regards to claims 4 and 5, the reference does not expressly state all the properties and capabilities of the product. Nevertheless the limitations regarding the properties of the product of instant claim 1, which is anticipated by the reference, would be inherent to the product mentioned in the reference.

In regards to claim 6 and 7, the reference discloses species  $\text{Ca}_{10}(\text{PO}_4)_6\text{F}_2$  (Pg20 Para [0027]) of the genus of instant claim 1. This relates to the instant formula (from instant claim 1) when x is considered 1 and A is F. Since the specie is disclosed the genus is anticipated.

### ***Conclusion***

No claims allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED IQBAL whose telephone number is (571)270-5857. The examiner can normally be reached on Monday to Thursday 7:30am EST to 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 5712720579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. I./

Examiner, Art Unit 4181

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4181